

Patent Abstracts of Japan

PUBLICATION NUMBER : 2001237243
PUBLICATION DATE : 31-08-01

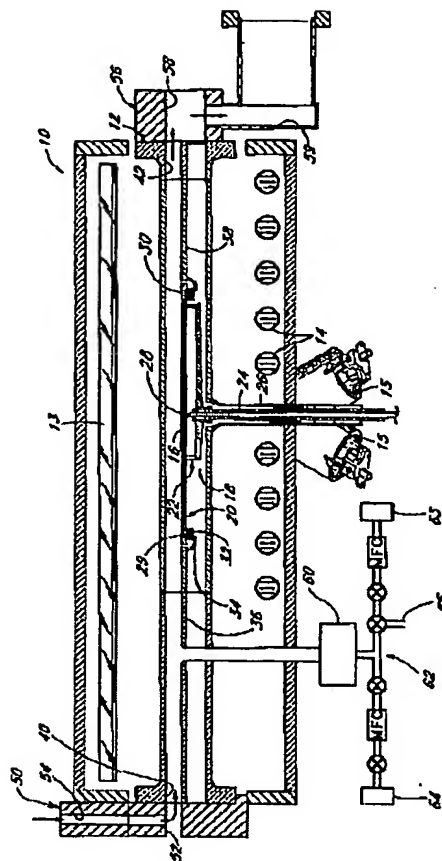
APPLICATION DATE : 21-12-00
APPLICATION NUMBER : 2000388529

APPLICANT : ASM AMERICA INC;

INVENTOR : CHRISTAN J WERUKUHOBEN;

INT.CL. : H01L 21/318 C23C 16/02 C23C 16/34
H01L 29/78 // H01L 27/108 H01L
21/8242

TITLE : MANUFACTURING METHOD AND
PROCESS OF IN-SITU DIELECTRIC
STACK



ABSTRACT : PROBLEM TO BE SOLVED: To provide an effective method for forming a dielectric layer with high quality.

SOLUTION: A plurality of sequential processes are carried out in situ-state in a single-wafer processing chamber. The chamber shows a layered gas flow in single pass form for providing safety and clean sequential processing easily. A remote plasma feeding source makes it possible to realize a wide process window and the sequential process at the same temperature. Then, a shifting time for a thermal lamp between the in situ steps can be made short. In an exemplifying processing, extremely thin interface silicon oxide, nitride and/or oxy-nitride material are grown, and then a silicon nitride is stuck in an in-situ state. The cleaning, annealing and electrode attachment are carried out in the in-situ state, so the shifting time can be made short, and the reactive time is not diminished.

COPYRIGHT: (C)2001,JPO

BEST AVAILABLE COPY

EV550718549